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VIBRATION INSTRUMENT CALIBRATION METHOD AND APPARATUS

Darlene Turner

Serial No.: 10/629,445

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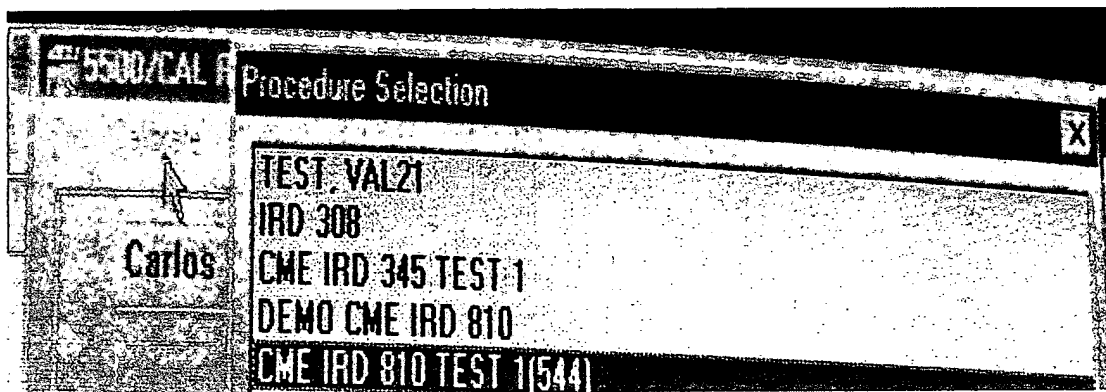


FIG.1

<input type="checkbox"/> Test Information	
PLEASE TAKE TIME AND FAMILIARIZE WITH THE MODEL NME	
<input type="button" value="Advance"/>	<input type="button" value="Terminate"/>

FIG.2

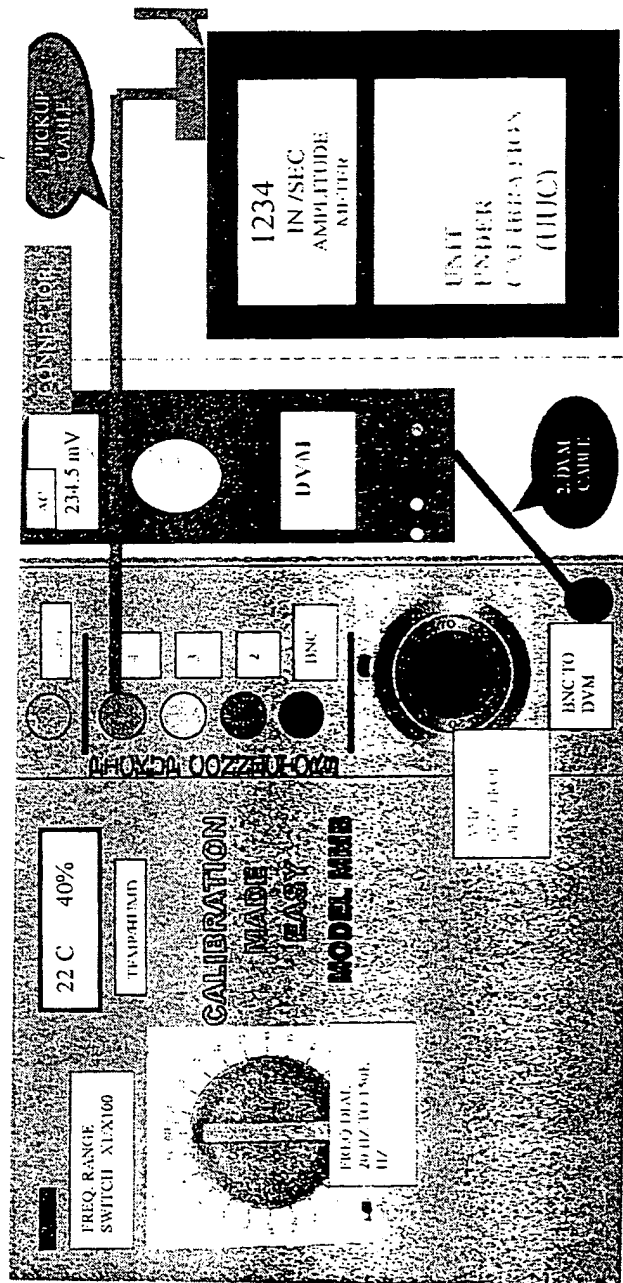
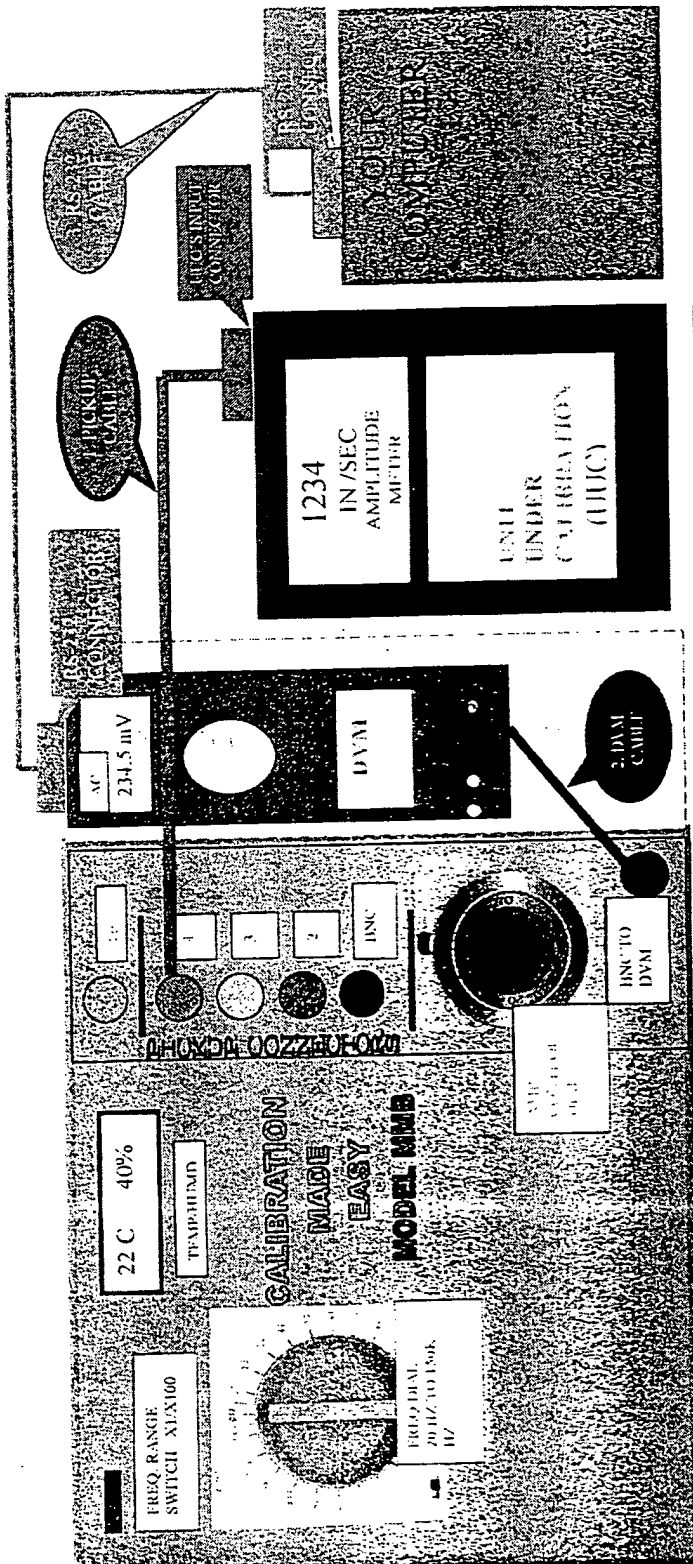


FIG. 3



1. CONNECT PICKUP CABLE TO UUC'S INPUT CONNECTOR
CONNECT THE OTHER END, TO PICKUP CONNECTOR ON
THE MODEL MMB
 2. CONNECT DVM CABLE TO DVM AND THE OTHER END 'BNC TO DVM'
 3. CONNECT RS-232 CABLE TO 'RS-232 CONNECTOR ON THE MODEL DVM' THE
OTHER END TO 'RS-232 ON YOUR COMPUTER'
- FOLLOW PROCEDURE ON THE COMPUTER**

FIG.4

EXAMPLE

Calibration Results VIBRATION ANALYSIS LIMITED

UUT: ICP 328F01
ACCELEROMETER
Serial No: 27024
Asset No. 991111R

Result: **PASS**
Performed on: 3/10/24 12:18:00
Performed by: DARLENE TURNER
Endicement: Temp 20.2°C Humid. 37 %
Condition FILL: FOUND-LEFT
Procedure Completed:

Notes:

Standards Used		Model	Description	Cnt. Date	Due Date
Asset	Mfr				
WALTE106	FLUKE	87	DVM	10-Sep-01	10-Sep-02
00074	DYNAMIC	DI-803	TRANSDUCER TESTER	11-Apr-01	11-Apr-02
9901163	ENTEK/IRD	870	STANDARD TRANSDUCER	19-Jan-02	17-Jan-03
9904139	ENTEK/IRD	844	STANDARD TRANSDUCER	19-Jan-02	17-Jan-03

Test Data		UNIT	UNDER TEST	UNIT ERROR	NOTIFY
TEST #	PARAMETER	VALUE	READING	TOLERANCE	TUR USER
TOLERANCE +/- 10%					
READING IN ACC.					
1	100mv @ 10Hz test	103	3.2mv	31	
2	50.0 Hz test	106	6.2mv	58	
3	100mv @ 50Hz	107	6.9mv	65	
4	100mv @ 100Hz test	107	6.9mv	65	
5	100mv @ 500Hz	107	7.1mv	66	
5	100mv @ 1000Hz	107			

End of Test Data

FIG.5

CME

Calibration Results
GRB ENTERPRISE

UUT: FLUKE 87

DVM
Serial No: VALTE108
Asset No. VALTE108Result: **FAIL**
Performed on: 8/1/03 at 08:52:00
Performed by: Carlos R. Hill
Environment: Temp 23.5°C Humid 40 %
Condition: FOUND-LEFT
Procedure Completed:

Notes:

FAIL**EXAMPLE**

Asset	Model	Description	Cal Date	Due Date
-------	-------	-------------	----------	----------

Test Data	STD	TRUE	UNIT UNDER TEST	ERROR IN	NOTIFY
TEST#	PARAMETER	VALUE	READING	TOLERANCE	OUT ERROR

Asset # or Serial # of MODEL MMS

ABCD1234

05/10/03

Asset # or Serial # of Transducer 1

H3456789

Asset # or Serial # of Transducer 1

544

Asset # or Serial # of Transducer 2

GT23456

Asset # or Serial # of Transducer 2

544

BATT SIGNAL CHECK

Result of Operator Evaluation

READING IN DISP

100.0 Hz test

.9 to 1.0

Result of Operator Evaluation

AC 0.015 V

50.0 Hz test

End of Test Data

FIG.6

VIBRATION INSTRUMENT CALIBRATION METHOD AND APPARATUS

Darlene Turner
Serial No.: 10/629,445
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EXAMPLE

VIBRATION ANALYSIS LIMITED

*Certificate of
Calibration*

DRAFT

3600 SUNBURY RD.
COLUMBUS, OH 43219
1-800-350-4988
614-476-0740
FAX: 614-476-0784
www.vibrationanalysis.net

For Instrument: ICP 328F01
Description: ACCELEROMETER
Asset Number: 991111P Serial Number: 27012

VIBRATION ANALYSIS LIMITED TESTING SERVICES HEREBY CERTIFIES THAT:
the above described instrument met or exceeded all published specifications at the time of calibration specified below; and has been calibrated using standards whose accuracies are traceable to the National Institute of Standards and Technology (NIST) within the limitations of the Institute's calibration services, or have been derived from accepted values or physical constants, or have been derived by ratio or self calibration techniques. All test are performed with a TUR (Test Uncertainty Ratio) of 4:1 unless otherwise specified. All calibration activities performed are in compliance with
ANSI/NCCL Z540, ISO/GUIDE 25, AND MIL-STD-45662A.

CALIBRATION INFORMATION

Cal Date Time 3/1/02 14:20:00 Temperature 28.20°C
Next Cal Due 2/28/03 Humidity 37 %

Pass Y Tech DARLENE TURNER
Seals OK Y Note

Cal Procedure ICP ACCELEROMETER Revision 1.0

Std. Asset Number	Mfg	Model	Description	Cal. Date	Due Date
VALTE108 0074 9901183 9904138	FLUKE DYNAMIC ENTEK/IRD	87 DI-803 970 544	DVM TRANSDUCER TESTER STANDARD TRANSDUCER STANDARD TRANSDUCER	9/10/01 4/11/01 1/19/02 1/19/02	9/10/02 4/11/02 1/17/03 1/17/03

FIG. 7

Signed: _____

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EXAMPLE

GRB ENTERPRISE

<report substitution mt_user1>
<report substitution mt_user2>

Failed Calibration Report

DRAFT

For Instrument:

FLUKE 87

Description

DVM

Asset Number:

VALTE106

Serial Number

VALTE106

GRB ENTERPRISE hereby certifies that...
the above described instrument met or exceeded all published specifications at the time of calibration
specified below; and has been calibrated using standards whose accuracies are traceable to the National
Institute of Standards and Technology (NIST) within the limitations of the Institute's calibration services,
or have been derived from accepted values or physical constants, or have been derived by ratio or self
calibration techniques. All calibration activities performed are in compliance with MIL-STD-46882A.

CALIBRATION INFORMATION

Cal Date Time 8/26/03 04:22:00 Temperature 23.60°C Shop
Next Cal Due 8/26/03 Humidity 40 % Work Order

Pass 1 Y Tech Carlos R. Hill
Seals OK Y Note

Cal Procedure CME IRD 810 TEST 1(844) Revision 1.0

STANDARDS USED FOR CALIBRATION

Asset Number	Mfg	Model	Description	Cal. Date	Due Date

FIG.8

Signature: _____

Darlene Turner

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EXAMPLE**Final Validated Calibration Results
GRB ENTERPRISE**

UUT: ENTEKORD DATAPAC 1600
DATA COLLECTOR
Serial No: 9809398
Asset No: 080

Result: PASS
Performed on: 12/10/01 at 18:13:00
Performed by: DARLENE TURNER
Environment: Temp. 26.2°C Humid. 37 %
Condition F/L: FOUND-LEFT
Procedure Completed:

Notes:

Standards Used	Mfg	Model	Description	Cal Date	Due Date
GRBTE1026	AGILENT	3466A	6 1/2 MULTIMETER	11-Apr-01	11-Apr-02
GRBTE1026	GLOBAL	108/2120	GENERATOR	30-Apr-01	30-Apr-02

Test Data	STU	TRUE	UNIT UNDER TEST	ERROR IN	NOTIFY
TEST#	PARAMETER	VALUE	READING	TOLERANCE	USER
	Asset # of Serial # of Transducer	Model	Model	(% of Tol)	
1	MODEL 9000A-LMV	SN# 12120	100MV/100HZ		

TEST#	PARAMETER	VALUE	READING	TOLERANCE	UNIT	ERROR	(% of Tol)	TUR	NOTIFY
1	READING IN ACC	10.0 Hz test @ 1.0g							
2	35.4mv @ 10Hz	35.4							
3	35.4mv @ 100Hz	35.4							
4	35.4mv @ 50Hz	35.6							
5	35.4mv @ 100Hz	35.6							
6	35.4mv @ 1000Hz	35.7							
7	35.4mv @ 10Hz	35.7							
8	35.4mv @ 100Hz	31							
9	35.4mv @ 500Hz	302							
10	35.4mv @ 1000Hz	5							
11	35.4mv @ 100Hz	16.4							
12	35.4mv @ 500Hz	477							

GRB Enterprise Runtime Report Calibration Results
ENTEKORD DATAPAC 1600 Asset No. 080 Serial No: 980
Calibrated on 12/10/01 at 18:13:00

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FIG. 9

Darlene Turner

Serial No.: 10/629,445

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GRB ENTERPRISE

EXAMPLE

FINAL VALIDATED Certificate of Calibration

3600 SUNBURY RD.
COLUMBUS, OH 43219
614-476-6839
1-800-350-4988
FAX: 614-476-0784
www.calibrationmadeeasy.com

For Instrument: ENTEKIRD DATAPAC 1500

Description	DATA COLLECTOR	Serial Number
Asset Number: <u>080</u>		<u>9909396</u>

GRB ENTERPRISE, HEREBY CERTIFIES THAT:
the above described instrument met or exceeded all published specifications at the time of calibration specified below; and has been calibrated using standards whose accuracies are traceable to the National Institute of Standards and Technology (NIST) within the limitations of the Institute's calibration services. It has been derived from accepted values or physical constants, or have been derived by ratio to self calibration techniques. All test are performed with a TUR (Test Uncertainty Ratio) of 4:1 unless otherwise specified. All calibration activities performed are in compliance with ANS/NCSL Z540, ISO/GUIDE 25, ISO/GUIDE 17025, QS-9000, ISO-9000 AND MIL-STD-45662A.

CALIBRATION INFORMATION

Cal Date Time 12/10/01 18:13:00 Temperature 28.20°C
Next Cal Due 12/10/02 Humidity 37 %
Pass Y Tech DARLENE TURNER
Seals OK Y Note
Cal Procedure IRD MODEL DATAPAC 1500

Company
Address
C/S/Z
PO#

Revision 1.0

Std. Asset Number	Mfg	Model	Description	Cal. Date	Due Date
GRBTE1028 GRBTE1028	AOILENT GLOBAL	3458A 105/2120	8 1/2 MULTIMETER GENERATOR	4/11/01 4/30/01	4/11/02 4/30/02

Dated Signed: _____

Tested by: _____

Validated by: _____

Approved by: _____

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Form # GRB06080311

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FIG. 10

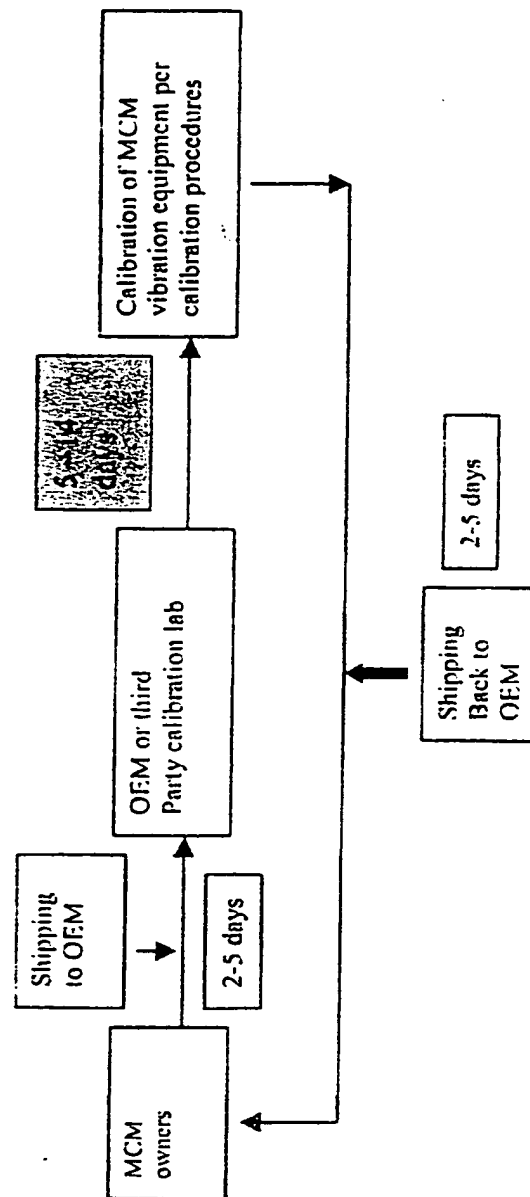


FIG. 11